

Serial No.: 09/925,778  
Group Art Unit No.: 1651

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended): A method of modulating an activity of a DXR reductoisomerase enzyme of *Haemophilus influenzae* comprising contacting said enzyme with a compound that modulates an activity of said enzyme, provided that said activity is not inhibition of DXR by fosmidomycin, fosfomycin, FR-33289, or FR-900098, or binding to DXR of fosmidomycin, fosfomycin, FR-33289, or FR-900098 to DXR.
2. (Currently Amended): The method according to claim 1, wherein said activity is selected from the group consisting of :
  - formation of a dimer;
  - ~~use of manganese as a substrate by DXR;~~
  - use of NADPH as substrate by DXR;
  - NADPH binding to DXR prior to or simultaneous with manganese binding;
  - isomerization of substrate;
  - binding of substrate;
  - reductoisomerizations;
  - ~~binding of DXR with a cellular component;~~
  - conversion of 1-deoxy-D-xylulose-5-phosphate to 2C-methyl-D-erythritol-4-phosphate; and
  - conversion of NADPH to NADP.[[:]]
  - ~~inhibition of DXR by fosmidomycin, fosfomycin, FR-33289, or FR-900098; and~~
  - ~~binding to DXR of fosmidomycin, fosfomycin, FR-33289, or FR-900098 to DXR;~~
3. (Original): The method according to claim 1, wherein said modulating is inhibiting.
4. (Original): The method according to claim 1, wherein contacting said enzyme with said compound inhibits the biosynthesis of isoprenoids.
5. (Original): The method according to claim 1, wherein contacting said enzyme with said compound inhibits the biosynthesis of either menaquinone or ubiquinone or biosynthesis of both menaquinone and ubiquinone.

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6. (Currently Amended): The method of claim 1, wherein said *Haemophilus influenzae* DXR reductoisomerase enzyme is selected from the group consisting of:
  - (i) ~~an polypeptide~~ a polypeptide comprising the amino acid sequence of SEQ ID NO:2,
  - (ii) ~~an polypeptide~~ a polypeptide that is the amino acid sequence of SEQ ID NO:2, and
  - (iii) a polypeptide encoded by a polynucleotide comprising the polynucleotide sequence of SEQ ID NO:1.
7. (Original): The method according to claim 1, wherein said compound forms a stable complex comprising said enzyme and said compound.
8. (Original): The method according to claim 1, wherein contacting with said compound kills or inhibits replication of a *Haemophilus influenzae* carrying said enzyme.
9. (Original): The method according to claim 8, wherein said contacting step occurs *in vitro*.
10. (Original): The method according to claim 8, wherein said contacting step occurs in a mammal infected with said *Haemophilus influenzae*.
11. (Original): The method according to claim 8, wherein said contacting step occurs *ex vivo*.
12. (Withdrawn): A method for treating a mammal or mammalian tissue infected with *Haemophilus influenzae* comprising a DXR reductoisomerase enzyme, said method comprising administering to said mammal an effective amount of a pharmaceutical composition comprising a compound that inhibits a *Haemophilus influenzae* DXR reductoisomerase enzyme in a pharmaceutically or physiologically acceptable carrier.
13. (Withdrawn): The method according to claim 12 wherein said composition is administered by a route selected from intravenous, oral, intradermal, transdermal, intraperitoneal, intramuscular, subcutaneous, inhalation, and mucosal.
14. (Withdrawn): The method according to claim 12, wherein an effective amount of said compound comprises about 1 mg to 500 mg.
15. (Withdrawn): The method according to claim 12, wherein said mammal is a human.
16. (Withdrawn): The method according to claim 12, wherein said mammal is a domestic animal.

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17. (Withdrawn): A method for disinfecting a surface comprising contacting said surface with a composition comprising a compound which inhibits a *Haemophilus influenzae* DXR reductoisomerase enzyme.
18. (Withdrawn): The method according to claim 17, wherein said surface is a biological tissue.
19. (Withdrawn): The method according to claim 17, wherein said surface is part of a non-living structure.
20. (Withdrawn): The method according to claim 17, wherein said contacting step comprises administering a suitable disinfecting dosage of said composition by means selected from the group consisting of coating, spraying, implanting, and soaking.